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TCS #2641/05
PID/ABCB 95/55
30 April 1965
Copy # _____

MEMORANDUM FOR: Chief, Nuclear Energy Division, OSI

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ATTENTION: [REDACTED] NSNB, NED, OSI

THROUGH: Chief, Requirements Branch, Reconnaissance Group, CGS

FROM: Chief, Photographic Intelligence Division, CIA

SUBJECT: Analysis of Section III of the Chih-chin-hsia Atomic Energy Complex, China

REFERENCES: Requirement No. C-815-82,231
CIA Project No. 30211-5

1. All available photographic coverage of the Chih-chin-hsia Atomic Energy Complex, Section III, was examined for this requirement. The latest photography used was Mission

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2. Details of Section III are shown on the attached line drawing which includes dimensions of the major structures. The reactor building has not been roofed yet, and the high-bay section is approximately 50* feet in height. Backfilling was underway around the reactor building on [REDACTED] but was not completed by [REDACTED]. There are now 10 concrete basins in a line extending for approximately 900 feet north-northeast of the reactor building. Three of these basins have been covered. The walls of the different basins appear to vary in thickness. They range from approximately [REDACTED] feet thick. Two bridge cranes travel over these basins to the open end of the reactor building. The bridge cranes are [REDACTED] tall and travel on rails that are 900 feet long and [REDACTED] apart. The basin nearest the reactor building was begun between [REDACTED] and is located on the rail line that formerly ran through Section III. A cone-shaped object was seen in the area of this new basin on [REDACTED] it no longer could be seen. Its dimensions were 35 feet in diameter by 15 feet high. A ditch can be seen crossing the rail line southeast of this basin on [REDACTED]. It appears that the rail line has been dismantled at least as far as 70* feet to the northwest of the basins and 225* feet to the southeast. Two of the cooling towers south of

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the reactor building are now under construction but there appears to be no construction activity in the other four excavations. A large batch plant is located approximately 325* feet north-northwest of the reactor building. Sand and gravel is probably brought to this area from the Su-lo Ho (River) by the narrow gauge railroad that begins in the area of the dam and terminates in Section III.

25X1D The volumes of the excavation spoil piles adjacent to
25X1D Sections II and III were determined using [REDACTED]

[REDACTED] The volumes were determined by measuring a rectangle that enclosed most of the pile, measuring the highest side of the pile and using the formula $L \times W \times H$ divided by 2 equals V. This assumes an even grade for the pile, but is the best method that we could use. These volumes are approximate and no degree of accuracy can be determined, but the ratio of the 2 piles should be reasonably accurate. The volume of the pile adjacent to Section II is approximately 34,000* cubic yards. The volume of the pile adjacent to Section III is approximately 58,000* cubic yards. Using the dimensions contained in HPIC/R-335/63 dated December 1963, the reactor excavation in Section III has had approximately 122,000 cubic yards removed with a difference of 64,000 cubic yards between the volume of the excavation and the volume of the spoil pile.

25X1D This difference can be partially reconciled in the following
25X1D manner: [REDACTED] clearly shows that spoil was distributed over a large area around the major pile, and this area appears light toned on [REDACTED] also. If we use the same principle of a rectangle of the same area as the spoil, and assume an average depth of 3 feet (which is reasonable) we can account for another 47,000 cubic yards. This brings the approximate total to 105,000 cubic yards.

25X1D The outside dimensions of each of the 4 completed water
25X1D reservoirs on the hill above the workshop area are 210 by 165 feet with a maximum height above the ground of 10 feet. These dimensions were determined from [REDACTED]. The depths could not be determined because there is no clear, good quality coverage of the basins before they were covered. A fifth possible basin is under construction [REDACTED] but the excavation is not finished yet.

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The following information was made available to the requester by telephone on 8 March 1965: Powerlines can be seen from the power plant area and can be traced to Sections I, II and III, and to the workshop area. Also, a powerline can be traced from the Yumen Refinery Power Plant to the vicinity of the power plant under construction. Apparently Yumen Refinery is providing all the electric power used at the AE complex at this time. The length of this powerline is approximately [redacted] nautical miles (nm) with a distance between poles of approximately 600* feet. The poles are approximately 45* feet high. In [redacted] the power plant at Yumen Refinery was being expanded to its present size. The boilerhouse is approximately [redacted] feet and 300* feet and the generator hall is approximately [redacted] feet by 300* feet. There is one natural draft cooling tower with a base diameter of approximately 105* feet and the approximate top diameter is [redacted] feet. There is also a forced draft cooling tower battery approximately 80* feet by 35* feet containing three fans. There are two stacks adjacent to the boilerhouse, but the connections can not be seen due to shadow. These stacks are 190* feet apart with the easternmost stack approximately 80* feet inside the corner of the boilerhouse.

3. One annotated line drawing of Section III of the Chih-chin-hsia AE Complex is being forwarded for your retention.

4. All measurements have been made by the NPIC Technical Intelligence Division, with the exception of those shown with an asterisk (*). These measurements were made by the CIA/PID Project Analyst. They should be considered as approximate and must not be taken as official NPIC mensuration data. The NPIC/TID measurements are considered to be accurate within +5 feet or +5%, whichever is greater. All measurements shown on the sketch were made using [redacted]

5. The photo analyst on this project is [redacted]. He may be contacted on extension 2316 for any further information regarding this requirement. This memorandum and attachment is a partial response to the requirement. It will be considered complete when the perspective drawing of Section III and the reactor under construction are forwarded to you.

Enclosure:

CIA/PID/ABCB P-253/65 (Line Drawing)

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